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| 10/825,875 | 04/16/2004 | Justin L. DePauw | C-689 | 8622 |

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| EXAMINER | |
| WEIER, ANTHONY J | |
| ART UNIT | PAPER NUMBER |
| 1761 | |

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/825,875

Applicant(s)

DEPAUW, JUSTIN L.

Examiner

Anthony Weier

Art Unit

1761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 28 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an heating air temperature of 32-150 C (see page 5), does not reasonably provide enablement for the range of 230-260 C set forth in claim 28. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dho et al.

Dho et al discloses a process of purifying dipeptide sweeteners (e.g. aspartame) wherein a slurry comprising same (e.g. 5.5%, Example 6) is treated and fed to a filter

under pressure (inherently possessing sufficient pressure to force liquid through the filter), removing the liquid of the slurry (e.g. water), and thereby recovering crystals of said dipeptide sweetener (e.g. col. 3, lines 34-40).

Dho et al is silent regarding the use of the particular filter as called for in claim 1. However, Brandon teaches the use of a porous ceramic or sintered metal filter having a pore size of 0.5-10 micrometers and intended for removal of material from solutions/slurries wherein the filter of Brandon has an increased efficiency over prior art filters used for the same purpose (e.g. col. 1, line 11-22; col. 3, lines 5-28; Examples). It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed said filter of Brandon to effect increased efficiency in the filtration aspect of the process of Dho et al.

The claims further call for the use of a sintered metal filter having particular dimensions (i.e. claim 2); Dho et al and Brandon are silent regarding the particular filter sizes employed. However, determination of the dimensions of said filter would have been well within the purview of one skilled in the art taking into account such conventional processing variables as pressure loss tolerated and flow rate desired. Such concepts and determining the optimum dimensions would have been obvious to an engineer designing such process. Absent a showing of unexpected results, it would have been further obvious to have arrived at such dimensions through routine optimization.

The claims further call for said slurry being fed to the filter via a valve located at the bottom of the filter device. Although Dho et al and Brandon are silent regarding the

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location of the inlet valve of the slurry, it is not seen where such position would provide for a patentable distinction. Absent a showing of unexpected results, it would have been further obvious to have arrived at a method step of inflow for the slurry from the bottom of the filter as a matter of preference depending on the apparatus space available, for example.

The claims further call for the particular pressure employed. Although Brandon teaches the filter being adapted to operate within pressures as called for in the instant claims (e.g. 120 to 50 psi), Dho et al is silent regarding the particular pressure employed with respect to treating an aspartame solution. However, such determination would have been well within the purview of one skilled in the art, and, absent a showing of unexpected results, it would have been further obvious to have arrived at such degree of pressure within the process of Dho et al modified with the Brandon filter as a matter of experimental optimization.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied in paragraph 2 further in view of EP 0976761.

The claims further call for the additional step of supplying pressurized air to the bottom of the filter device and venting the pressurized air from the top of the filter to remove additional water from said filter device. EP 0976761 teaches a process of extracting aspartame crystals in the form of a cake using a filtering system wherein pressurized air is supplied to the filtering device after water has been squeezed therefrom for the purpose of further drying the produced filter cake (see paragraph 0023). It would have been obvious to one having ordinary skill in the art at the time of

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the invention to have employed such step to minimize the moisture in the cake product. As far as the positioning of the inlet and outlet for said gas, EP 0976761 does not teach entry from the bottom and release from the top of the filter device. Nevertheless, it is not seen where such positioning of the gas inlet and outlet would provide for a patentable distinction since in both cases the purpose of drying the cake would be served. Absent a showing of unexpected results, it would have been further obvious to have arrived at a method step wherein the gas inlet and outlet were positioned as claimed as a matter of preference depending on, for example, availability of space.

5. Claims 10-27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied in paragraph 3 further in view of either one of JP 2002-195747 or Boze et al.

The claims further call for supplying cold water (which is pressurized) as well as forcing air (later described as heated) into the cake for drying same and followed by discharging the cake by pressurizing the filter device and opening a valve in said unit. EP 0976761 further teaches washing the aspartame cake with compressed water (see Example 3) and treating same with pressurized heated air (i.e. 35 C instead of 25 C) supplied for drying of the cake. It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed such washing step as a matter of removing impurities within the cakes (see paragraph 0022). The step of employing compressed air has already been addressed in the rejection above, but so far as said air being heated, it would have been further obvious to have employed the heated air of EP 0976761 to further enhance the drying of the cake. EP 0976761 is silent regarding

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the temperature of the water used for washing the cake. Nevertheless, it is not seen where said water being "cold" would provide for a patentable distinction. Absent a showing of unexpected results, it would have been further obvious to have employed cold water as a matter of preference depending on, for example, the water which happens to be available. As for ejecting the cake by using pressurized air by opening a valve, same is well known. For example, JP 2002-195747 teaches removal of a filtration cake formed from a slurry by using pressurized gas to dislodge same from the filter used (Abstract). Boze et al teaches the concept of dislodging filtration cakes by using a pressurized backflush of air released using valves (e.g. col. 5, lines 57-68; col. 7, lines 9-28). It would have been further obvious to have employed said pressurized gas, which is already available within the process, as a conventional method for conveniently dislodging a filtration cake.

The claims further call for the extent of drying the cake. EP 0976761 teaches drying an aspartame cake to a level of 28% moisture (see Examples). Absent a showing of unexpected results, it would have been further obvious to have arrived at such degree of drying as a matter of preference.

The claims further call for the flow rate of the slurry, compressed air rate and length of time for treatment, pressurized water flow rate and the length of time for treatment. However, these variables would have been all well within the purview of one skilled in the art at the time of the invention. Clearly, any chemical engineer directed to design and formulate optimized flow rates and times using flow balances for the water, air, and slurry would have the knowledge to do determine same. Absent a showing of

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unexpected results, it would have been further obvious to have arrived at such values through routine experimental optimization.

6. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied in paragraph 4 further in view of De Sadeleer et al.

Claim 28 further calls for said heating conditions to be carried out with air at a temperature of between 230-260 C. Although all the applied references are silent concerning such a drying temperature or provide examples that differ in temperature, it is known to heat materials containing aspartame to 250 C as taught by De Sadeleer et al. De Sadeleer et al teaches that is not only acceptable to heat aspartame to such high degree but that it has been done for the purpose of drying a wet material containing same (e.g. col. 2, lines 24-36). The inverse concept of temperature and time for heating materials is notoriously well known. In other words, the concept that one may heat an article at a higher temperature so long as it is done for a shorter time to achieve the same result as heating at a lower temperature for a longer amount of time is notoriously well known. De Sadeller et al teaches that aspartame may be heated at such temperature for drying. It would have been obvious to one having ordinary skill in the art at the time of the invention to have arrived at such temperature through routine experimental optimization and as a matter of preference depending on, for example, the ability to shorten the processing time by heating at a higher temperature.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Weier whose telephone number is 571-272-1409. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Anthony Weier

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Primary Examiner
Art Unit 1761

Anthony Weier
March 9, 2005



3/9/05